

5 US-A-1753502 discloses a pneumatic dust collector.  
The dust collector consists of a cyclone having a  
tangentially arranged gas-solids inlet opening. From the  
gas outlet conduit a stem extends to a disk positioned  
below the gas outlet opening.

10 EP-A-052042 discloses a swirl tube separator  
provided with anti-erosion means fixed on the interior  
wall of the housing of the separators.

US-A-4795561 discloses a cyclone separator provided  
with a tangential arranged gas-solids inlet, a  
15 cylindrical housing with a closed bottom and a valve at  
the bottom of the cylindrical housing. The valve is  
fixed to a pin. The opposite end of this pin is located  
in the gas outlet conduit present at the upper end of  
the cylindrical housing. The pin thus mechanically  
20 positions the valve and the movement of the valve within  
the separator.

US-A-4072481 discloses a device for separating a gas  
from a mixture of a liquid, solids and gas. The inlet  
for the mixture is tangential. A so-called stand  
25 provided with a plate at its upper end is present at  
some distance below the outlet for the gaseous phase.

US-A-4,795,561 discloses a cyclomic separator for  
use in fluid flow systems that comprises a housing  
containing an inlet, a moveable shroud, and at least one  
30 variable area outlet.

The object of the present invention is to provide a  
swirl tube separator having improved separation  
efficiency and which has a lesser tendency to operate  
with a non-symmetric vortex.

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#### Summary of invention

The invention is directed to the following swirl  
tube separator. Swirl tube separator for separating

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- 5 solids from a gas-solid containing feed comprising a  
tubular housing, an axial inlet for introducing a gas-  
solids mixture at one end of said housing, wherein said  
axial inlet for introducing the gas-solids mixture is  
provided with swirl imparting means, a solids outlet  
10 opening at the opposite end of said housing, and a co-